

**SCHEMATIC DIAGRAMS  
MOD.**

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# Chorale

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**ELECTRONIC ORGAN**

**GEM<sup>®</sup>**

A PRODUCT OF

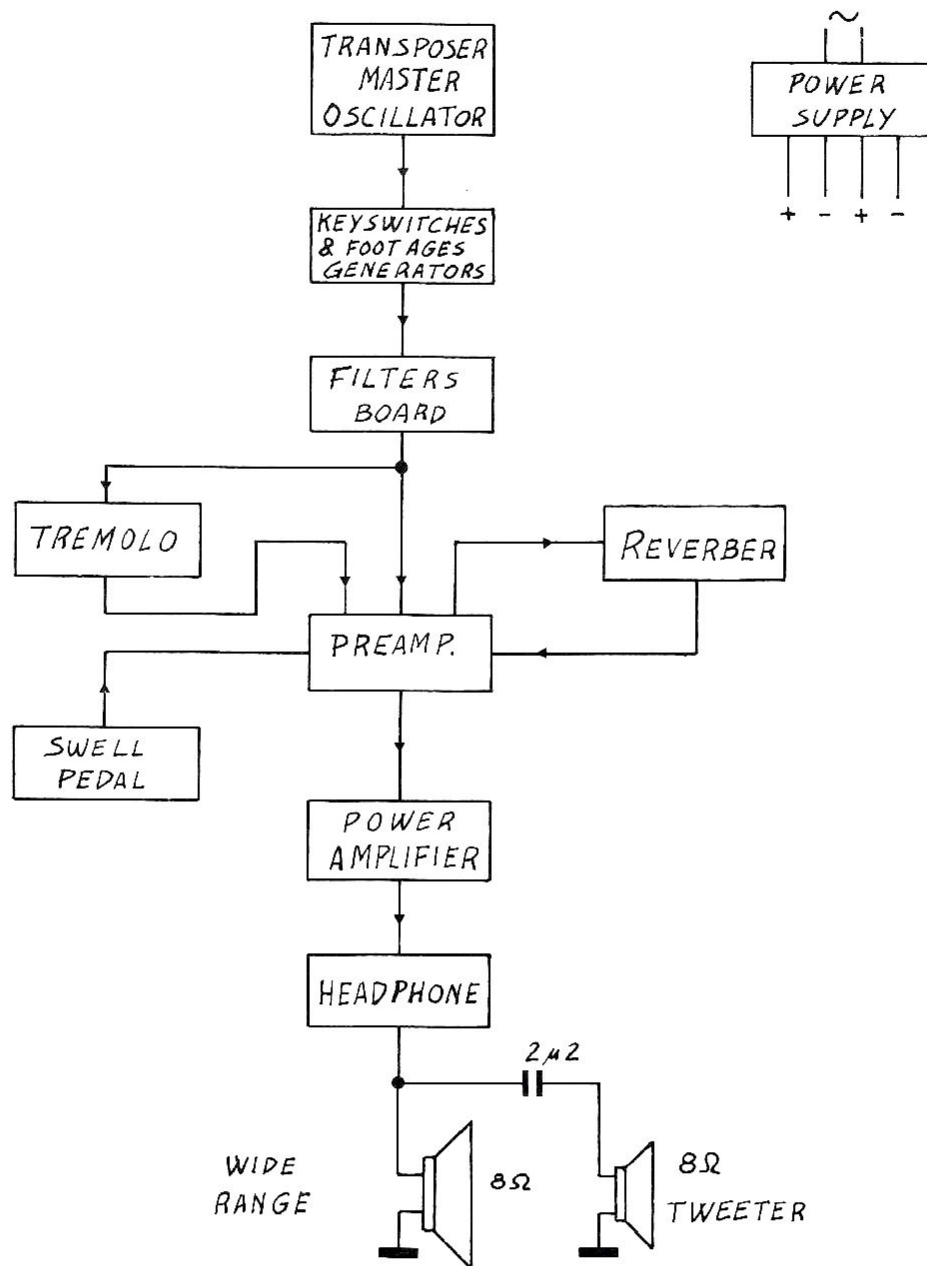
**general  
electro   
music**

**MONDAINO · FO · ITALY**

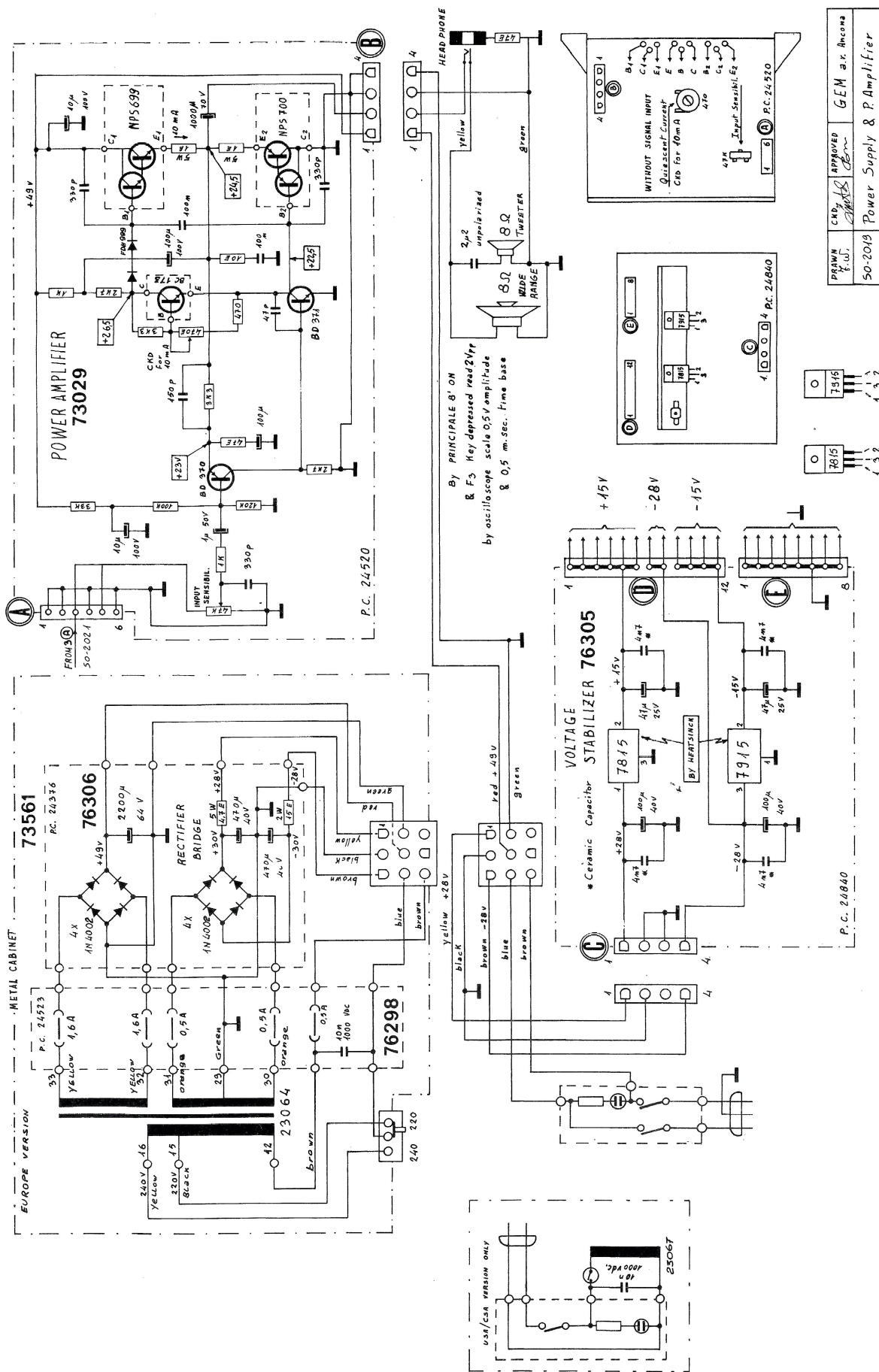
# I N D E X

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# CHORALE BLOCK DIAGRAM



DRAWN J.W.	CKD <i>[Signature]</i>	APPROVED <i>[Signature]</i>	GEM a.r. Ancona
50-2018	14-5-80	CHORALE BLOCK DIAGRAM	







Assy Code	TMS Code	Clock IN	Clock IN Frequency at 440 Hz
74533	10326	pin 13 I.C.5	1999.364 Hz

[illegible]



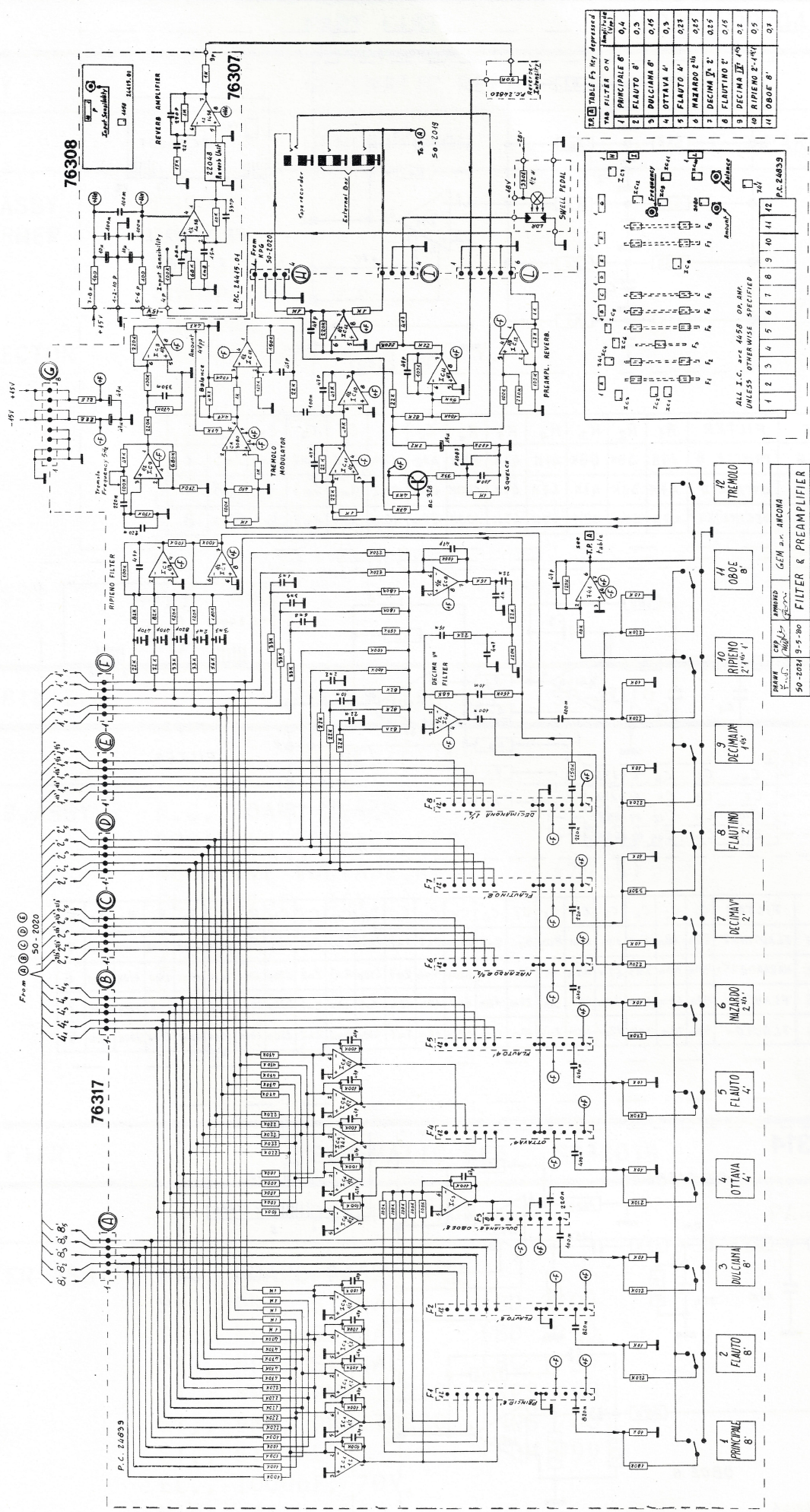
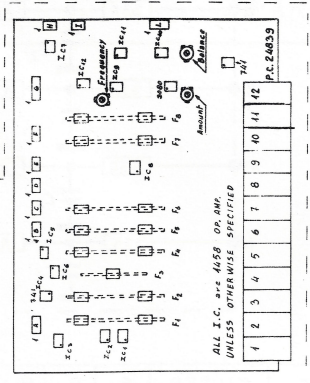


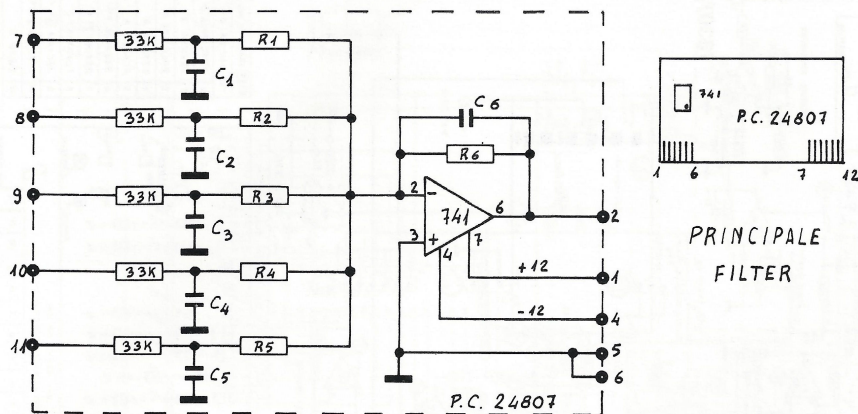
TABLE 1: Filter F<sub>1</sub> Key Assignment

Filter	Key	Assignment
1	PRINCIPALE 8'	0.4
2	FLAUTO 8'	0.3
3	BUCCHIA 8'	0.19
4	OTTAVA 4'	0.3
5	FLAUTO 4'	0.23
6	MAZARDO 2 1/4'	0.15
7	DECIMA 2'	0.15
8	FLAUTINO 2'	0.15
9	DECIMA 1 1/2'	0.2
10	RIPIENO 2-1 1/2'	0.5
11	OBOE 8'	0.7

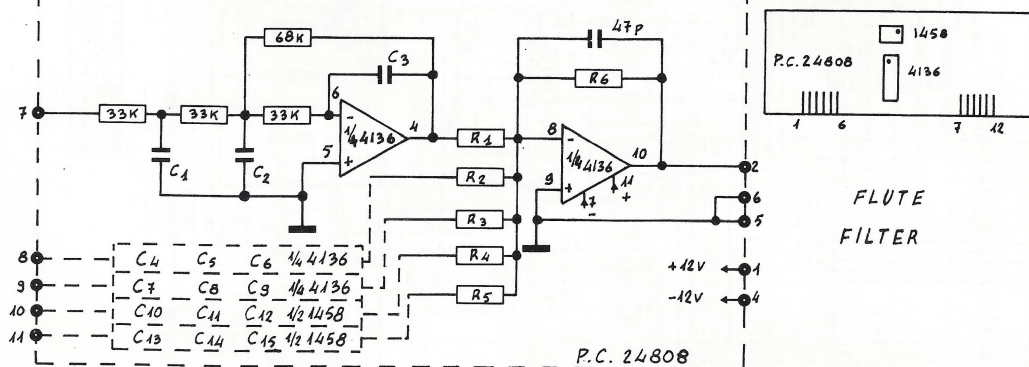


50-2024 5-7-80  
GEM a.n. ANCONA  
FILTER & PREAMPLIFIER

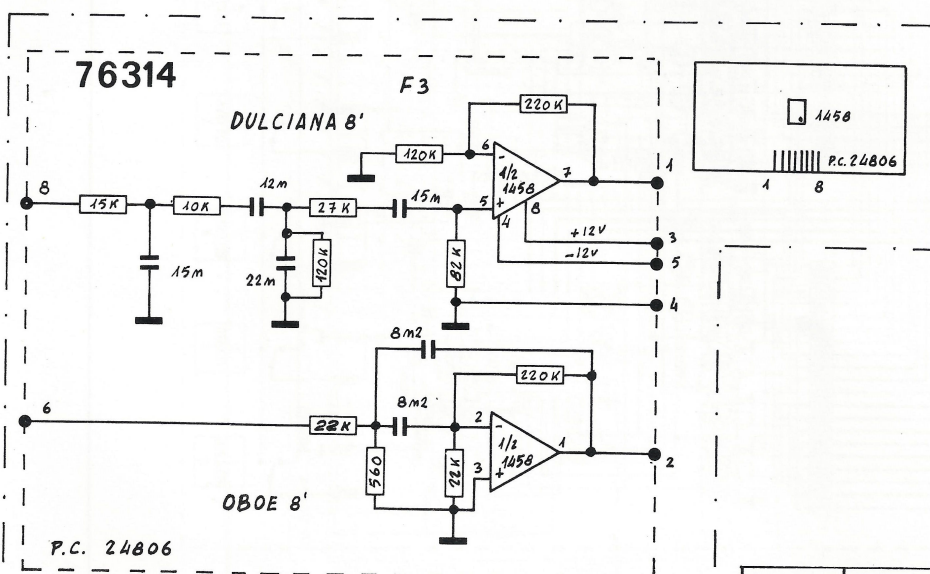




CODE	FILTER	R <sub>1</sub>	R <sub>2</sub>	R <sub>3</sub>	R <sub>4</sub>	R <sub>5</sub>	R <sub>6</sub>	C <sub>1</sub>	C <sub>2</sub>	C <sub>3</sub>	C <sub>4</sub>	C <sub>5</sub>	C <sub>6</sub>	F
76316	PRINCIP. 8'	47K	39K	68K	47K	47K	100K	33m	12m	8m2	8m2	4m7	1m5	1
76309	OTTAVA 4'	47K	39K	47K	47K	47K	100K	15m	8m2	5m6	2m7	1m	1m5	4
76310	DECIMA 1/4	47K	47K	82K	47K	47K	100K	22m	10m	1m5	1m5	1m5	330p	8



CODE	FILTER	C <sub>1</sub>	C <sub>2</sub>	C <sub>3</sub>	C <sub>4</sub>	C <sub>5</sub>	C <sub>6</sub>	C <sub>7</sub>	C <sub>8</sub>	C <sub>9</sub>	C <sub>10</sub>	C <sub>11</sub>	C <sub>12</sub>	C <sub>13</sub>	C <sub>14</sub>	C <sub>15</sub>	R <sub>1</sub>	R <sub>2</sub>	R <sub>3</sub>	R <sub>4</sub>	R <sub>5</sub>	R <sub>6</sub>	F
76311	FLAUTINO2'	22m	18m	1m5	10m	10m	820p	5m6	2m7	470p	2m7	2m2	220p	2m2	2m2	100p	100K	100K	100K	100K	100K	100K	7
76312	NAZARDO2 <sup>2/3</sup>	39m	33m	3m3	22m	18m	1m5	10m	10m	820p	5m6	2m7	470p	2m7	2m2	220p	100K	100K	100K	150K	100K	100K	6
76315	FLAUTO8'	82m	68m	6m8	33m	33m	3m3	22m	18m	1m5	10m	10m	1m5	10m	2m7	820p	100K	100K	100K	100K	100K	100K	2
76313	FLAUTO4'	39m	33m	3m3	22m	18m	1m5	10m	10m	820p	12m	2m7	470p	5m6	2m2	220p	100K	100K	100K	100K	100K	100K	5



DRAWN F.W.	CKD M.M.	APPROVED J.M.	GEM s.r.l. Ancona
50-2022	9-5-80	FILTER MODULE	

## POWER SUPPLY

SCHEMATIC REF. S0-2019

PART	DESCRIPTION	PART NUMBER
PWR SUPPLY ASSY	EUROPE	73561
PWR TRANSFORMER	EUROPE	23064
" "	U.L., C.S.A.	23067
FUSE	EUROPE 0,5 A.	11017
"	EUROPE 1,6 A.	11012
VOLTAGE SELECTOR	EUROPE 220 V. - 240 V.	11241
FUSE HOLDER	EUROPE	11105
CONNECTOR	9 PINS PANEL	14039
PINS	PINS	14031
DIODE	RETTIFIER DIODE (IN 4002)	8156
CAPACITOR	EL., 2200uF, 64V.	3811
CAPACITOR	EL., 470uF, 40V.	3651
FUSE ASSY	P.C. 24523 (EUROPE)	76298
RECTIFIER ASSY	P.C. 24376	76306

## VOLTAGE STABILIZER

SCHEMATIC REF. S0-2019

PART	DESCRIPTION	PART NUMBER
VOLTAGE STAB. ASSY	P.C. BOARD 24840	76305
I.C.	POSITIVE VOLTAGE REG. (7815)	10060
I.C.	NEGATIVE VOLTAGE REG. (7915)	10049
CAPACITOR	EL., 47uF, 25V.	3404
CAPACITOR	EL., 100uF, 40V.	3498
CONNECTOR	4 PINS	14043
CONNECTOR	8 PINS	14651
CONNECTOR	12 PINS	14648
CAPACITOR	CERAMIC, 4n7	1543

## POWER AMPLIFIER

SCHEMATIC REF. S0-2019

PART	DESCRIPTION	PART NUMBER
PWR AMPLIFIER ASSY	P.C. BOARD 24520	73029
TRANSISTOR	SI., PNP, SIGNAL (BD 370)	9274
TRANSISTOR	SI., NPN, SIGNAL (BD 371)	9267
TRANSISTOR	SI., NPN, SIGNAL (BC 173)	9182
TRANSISTOR	SI., NPN, PWR, T0220 (NPS 699)	9562
TRANSISTOR	SI., PNP, PWR, T0220 (NPS 700)	9710
DIODE	SI., SIGNAL (FDH 999)	8103
CAPACITOR	EL., 1000uF, 70V.	3725
TRIMMER RES.	MIN., 47K	7230
TRIMMER RES.	MIN., 470E	7108
CONNECTOR	6 PINS	14655
CONNECTOR	4 PINS	14043



## MASTER OSCILLATOR

SCHEMATIC REF. SO-2001

PART	DESCRIPTION	PART NUMBER
TRANSISTOR	SI., NPN, SIGNAL H.F., (BF 494)	9305
COIL	OSCILLATOR COIL, WHITE DOT	23518
CONNECTOR	4 PINS	14650
TRIMMER	TRIMMER CAPACITOR 2-10pF	1600
CAPACITOR	CERAMIC, 56pF	1311
CAPACITOR	CERAMIC, 10pF	1235
CAPACITOR	CERAMIC, 39pF	1294
CAPACITOR	CERAMIC, 18pF	1261
CAPACITOR	CERAMIC, 33pF	1291
CAPACITOR	TANTALIUM, 47uF, 16V.	3937
SWITCHER	6 POSITION	11242

## KEYSWITCHES &amp; FOOTAGES GENERATOR

SCHEMATIC REF. SO-2020

PART	DESCRIPTION	PART NUMBER
KEYSWITCHES ASSY	P.C. BOARD 24.832	74577
I.C.	OCTAVE TONE GENERATOR (TMS 3617)	10326
I.C.	QUAD OPERATIONAL AMPLIFIER (LM 324)	10056
TRANSISTOR	SI., PNP, SIGNAL, (BC 328)	9153
TRANSISTOR	SI., NPN, SIGNAL, (BC 239)	9225
DIODE	SI., SIGNAL (FDH 999)	8103
CONNECTOR	6 PINS	14625
CONNECTOR	8 PINS	14620
SOCKET	28 PINS	14607
SOCKET	14 PINS	14614
SPRING	FOR KEYBOARD CONTACT	16082
BUS BAR	cm. 89	16028
CAPACITOR	EL., 220uF, 25V.	3566
CAPACITOR	EL., 470uF, 25V.	3648
CAPACITOR	EL., 1uF, VERT.	3005
CAPACITOR	TANTALIUM, 1uF	3926
CAPACITOR	TANTALIUM, 10uF	3941

PART	DESCRIPTION	PART NUMBER
FILTER ASSY	P.C. BOARD 24839	76317
	BOTTOM FRAME, BLACK	15230
	TOP FRAME, BLACK	15340
	SPRING CONTACT	16057
	UPPER CONTACT	16059
	LOWER CONTACT	16058
	RUBBER STOP	19111
TAB WHITE	PRINCIPALE 8'	28659
TAB "	FLAUTO 8'	28660
TAB "	DULCIANA 8'	28661
TAB "	OTTAVA 4'	28662
TAB "	FLAUTO 4'	28663
TAB "	NAZARDO 2' 2/3	28664
TAB "	DECIMAQUINTA 2'	28665
TAB "	FLAUTINO 2'	28666
TAB "	DECIMANONA 1' 1/3	28667
TAB "	RIPIENO 2' 1' 1/3 1'	28668
TAB "	OBOE 8'	28669
TAB "	TREMOLO	28670
CONNECTOR	5 PINS	14641
CONNECTOR	8 PINS	14651
CONNECTOR	4 PINS	14650
CONNECTOR	6 PINS	14655
I.C.	DUAL OPERATIONAL AMPLIFIER (1458)	10051
I.C.	SINGLE OTA (3080)	10001
I.C.	SINGLE OPERATIONAL AMPLIFIER (741)	10023
TRANSISTOR	SI., PNP, SIGNAL (BC 328)	9153
TRANSISTOR	SI., FET (P 1087)	9856
TRIMMER RES.	MIN., 4,7K	7161
TRIMMER RES.	MIN., 100K	7244
CAPACITOR	EL., VERT., 47 $\mu$ F, 16V.	3403
CAPACITOR	TANTALIUM, 15 $\mu$ F	3924
FILTER	PRINCIPALE 8' (P.C. 24.807)	76316
FILTER	FLAUTO 8' (P.C. 24.808)	76315
FILTER	DULCIANA 8'-OBOE 8' (P.C. 24.806)	76314
FILTER	FLAUTO 4' (P.C. 24.808)	76313
FILTER	NAZARDO 2' 2/3 (P.C. 24.808)	76312
FILTER	FLAUTINO 2' (P.C. 24.808)	76311
FILTER	DECIMANONA 1' 1/3 (P.C. 24.807)	76310
FILTER	OTTAVA 4' (P.C. 24.807)	76309

## REVERBERATION

SCHEMATIC REF. SO-2021

PART	DESCRIPTION	PART NUMBER
REVERBERATION ASSY	COMPLETE	76308
AMPLIFIER ASSY	P.C. BOARD 24415	76307
	REVERBERATION UNIT	22048
I.C.	DUAL OPERATIONAL AMPLIFIER (1458)	10051
TRIMMER RES.	HOR.MOUNT, MIN, 100K	7244
CONNECTOR	10 PINS	14623
CAPACITOR	TANTALIUM, 10uF	3927

## SWELL PEDAL

SCHEMATIC REF. SO-2021

PART	DESCRIPTION	PART NUMBER
SWELL PEDAL ASSY	COMPLETE	79009
LAMP	LAMP 28V.	11204
CONNECTOR	8 PINS	12735
PHOTO-RESISTOR	LDR	8813

## MISCELLANEOUS

PART	DESCRIPTION	PART NUMBER
SLIDIN	SLIDIN FOR CHORALE	15387
KEY	KEY FOR CHORALE	19136
PLATE	PLATE " CHORALE "	18243
PLATE	PLATE " GEM "	18241
LOCKER	LOCKER	19134
SPEAKER	WIDE-RANGE, 8 ohm	22051
SPEAKER	TWEETER, 8 ohm	22060
	HEADPHONE JACK	14192
FRONT	SIMULATED WOOD ALLUMINIUM PANEL	17432
PLATE	"RIVERBERO"	18216
PLATE	"FA.....SI"	18218
KNOB	FOR SLIDE POTENZIOMETER	15260
KNOB	FOR SWITCHER	15349
POT.	SLIDE, POTENZIOMETER, 50K	7926
SWITCH	MAINS SWITCH, EUROPE	11239
SWITCH	MAINS SWITCH, U.L.-C.S.A.	11237
KEYBOARD	MECHANICS	80023